

## ABSTRACT

Provided is a method of producing an alumina film mainly in alpha crystal structure superior in heat resistance, wherein the alumina film mainly in alpha crystal structure is formed on a substrate, independently of the kind of the substrate at relatively low temperature, by treating the substrate surface with a ceramic powder mainly having the crystal structure same as that of alumina in the alpha crystal structure, in forming the alumina film mainly in alpha crystal structure on the substrate (including the substrate having a film previously formed thereon).